Group IX
South Africa, Namibia and Botswana

In Southern Africa we group IX have approximately 2400 endurance riders.

We host 13 FEI registered long distance rides in our 3 regions and approximately 100 other rides held under national rules.

After France, South Africa have the second most FEI registered endurance riders.

Our region has competed Internationally on leased horses at the senior WC in Dubai 2004, the young riders WC in Bahrain 2005, the WEG in Aachen 2006, and the young riders WC in Argentine 2007.

We compete annually against each other on a tri nations basis and travel up to over 2000 km to do so.

Our membership has grown in the last few years by 20% per year. Our horses are hard and tough and seem to go the extra mile.

We feel issues to be dealt with at this forum should be

The qualification for senior WC and possibly the distances

The image of the sport in terms of riders equitation, dress code and turn out of the horse.

Development of endurance in particular amongst the poorer countries and the remote countries.

Our biggest constraints in Southern Africa are the AHS disease and distances to travel which effectively eliminates our horses from the major International competitions.

Bearing this in mind we would like to present the following

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An Alternative to International competitions as the way forward

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A HANDICAP SYSTEM TO EQUALIZE ENDURANCE RIDING COURSES

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The purpose of the presentation is to describe a handicap system that has been developed in South Africa and which is used to "equalize" the different endurance riding courses in the country, for competitive purposes

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- A brief background to the circumstances under which endurance riding is being practiced in the country will be provided before moving on to the handicap system.
- It is often said that Southern Africa is a world in one country - seen not only from a cultural perspective, but also from a climatic and geographic point of view.
- Great variations are encountered in terrain and climate. It is a vast country, with stretched-out plains, high mountains, forests and arid semi-desert land. Temperatures, humidity, rainfall etc vary to a considerable degree.
- From the beginning (1974) the founders of the sport in South Africa had the foresight to keep record of a wide spectrum of information on each and every ride, and these data are today safely stowed in a sophisticated computer driven databank. The record-keeping still continues, and serves as an invaluable source of information.

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- Each year in July the Endurance Ride Association of South Africa (ERASA) hosts its National Championship which is a 200km ride over 3 days. The number of participants have reached 300. This is attained i.e.. by requiring each rider-horse combination to complete at least three rides before entering for the national championship. At this championship teams of 7 different unions compete against one another.

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- Since it has convincingly been demonstrated by our data that mass (weight) of rider and riding speed are correlated, riders in South Africa compete in three different weight categories i.e. light weight (up to 73kg), standard weight (73 - 94kg) and heavy weight (95kg and above) Only riders in the standard weight and heavy weight categories can qualify for the national team. The latter group should, however, satisfy all the criteria that apply to the standard weight rider.
- To qualify for selection on the national team a rider-horse combination should complete the three pre-rides at an average speed of 23km per hour. A short list is compiled of all those that satisfy this criterion and the national team consisting of 6 members is then selected from this list.

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- Given that approximately 90 rides are held annually by 43 clubs all over the country with its divergent geographical and climatic conditions, a need arose for equalizing the different courses so that performances on the courses could fairly and equitably be compared before compiling the short list for the national team.
- The answer lay in developing a handicap system according to which each course would carry a certain handicap to be entered into the equation when the performance of a rider-horse combination over the 3 pre-rides is calculated.

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- Before explaining how the handicap system works, let me, briefly, recapitulate some of the most important factors (as we all know) that influence performance in an endurance ride. These are:
- - Temperature
- - Humidity
- - Rain
- - Terrain (landscape)
- - Wind
- - Altitude (height above sea-level)
- - Mass (weight) of rider
- Naturally all these factors should be accounted for in any system that endeavors to equalize endurance riding courses.

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- Quite obviously it would be an arduous, if not unfeasible, task to take a measure on each of these variables at each ride and to somehow build them into an equation with each carrying a certain weight.
- ERASA's way of solving this problem was to reason that the horses themselves should tell how the variables affect their performance.
- This would be possible since all horses at a particular event would be subjected to the same environmental factors and the influence of these factors would be reflected in the horses' performance in that particular ride at that particular venue.

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- The handicap system is based on the following three basic concepts:
- a) the difficulty of a particular course
- b) a five year average of a course difficulty measure
- c) the course handicap

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- The difficulty of a course is estimated by first taking into account the speed of the top 5 horses in the following manner:
- **Horse** **Speed (km/h)**
-
- H1 = S1 = S1
  (speed of the 1st horse)
-
- H1 H2 H3 = (S1 + S2 + S3) / 3 = $\overline{S2}$
  (average speed of the first 3 horses)
-
- H1 H2 H3 H4 H5= (S1 + S2 + S3 + S4 +S5) / 5 = $\overline{S3}$ (average speed of the first 5 horses)

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- The above information is then used to calculate the difficulty measure according to the following formula.
- $$Yd = \frac{\overline{S1} + \overline{S2} + \overline{S3}}{3}$$ where
- Yd = Measure of difficulty
- $\overline{S}$ = Average speed per group
- From the above formula it is clear that the speed of the first horse (winner) is used 3 times, that of the second horse 2 times, that of the third horse 2 times and that of the fourth and fifth horse once each. The speed of the winning horse makes an overall contribution to the difficulty measure of 66%.

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- The above statistic, Yd, can fluctuate from year to year depending on climatic conditions at the day of the event. To correct for this, a course rating is calculated using the results of the 5 most recent years for a particular course.
- Thus, the rating for a particular course (difficulty measure calculated over 5 years) would be:
- $\bar{Y}r = [Yd1 + Yd2 + Yd3 + Yd4 + Yd5] / 5$ or
- $\bar{Y}r = [\sum_{i=1}^{5} Yi] / 5$ where
- $\underline{Y}d$ = Difficulty measure
- $\bar{Y}r$ = Course rating

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- Each year this course rating is updated by adding the most recent difficulty measure (Yd) and deleting the oldest.
- For example:
- $\bar{5}$
- Year 1 $\rightarrow$ $\bar{Y}r = Yd1 + Yd2 + Yd3 + Yd4 + Yd5 / 5 = \sum Ydi / 5$
- $\bar{6}$ $\quad i = 1$
- Year 2 $\rightarrow$ $\bar{Y}r = \sum Ydi / 5$
- $i = 2$
- $\bar{7}$
- Year 3 $\rightarrow$ $\bar{Y}r = \sum Ydi / 5$
- $i = 3$

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- Over the years this exercise has been done for all the different courses in the country.
- In order to establish a handicap for each course, 23km per hour served as a benchmark figure, against which the course ratings could be compared. Thus, the average speed of the top 5 horses at a certain course calculated according to the above formulae is each year subtracted from the benchmark figure i.e. 23km per hour. The result comprises the handicap for the particular course.

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For example:				
Course	**Course Rating**	**Benchmark**	**(Benchmark minus course rating)**	**Handicap**
	(5 year average)			
A	**18,2km/h**	**23km/h**	**23 -18,2 = 4,8**	**4.8**
B	**21,6km/h**	**23km/h**	**23-21,6=1,4**	**1.4**
C	**19,8km/h**	**23km/h**	**23- 9,8=3,2**	**3.2**
D	**16,0km/h**	**23km/h**	**23-16,0=7,0**	**7**
F	**25,0km/h**	**23km/h**	**23-25,0= -2,0**	**-2**

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- **Taking the above handicap figures into account, different courses can be compared in the following way:**

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Course	Actual speed	Course handicap of horse	Corrected speed (km/h)
A	Ha = 20	5	25
	Hb = 18	(difficult)	23
	Hc = 15		20
B	Hd = 20	1	21
	He = 18	(average)	19
	Hf = 15		16
Z	Hg = 20	-2	18
	Hh = 18	("easy")	16
	Hi = 15		13

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- It may be argued that the environmental conditions at a certain course in year 1 will or may not be identical to that in year 2 or 3 etc. The only way to overcome this problem is to have the rides at the different courses on more or less the same date every year. By doing this, possible environmental variations are kept to a minimum.

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- Our experience is that over the years the handicap figures do not vary much. Stability of the handicap figure is the rule rather than the exception.
- Smaller variations in environmental conditions are not reflected in the 5-year average.
- The distinct advantage of this handicap system is that the performance of horses and riders anywhere in the country can be compared at any particular point in time.
- It is also possible to use the system to place all riders and horses or rider-horse combinations in rank order of performance at any particular time.

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- **Another application would be to hold endurance rides at all courses on the same day. At the end of the day all horses can be placed by a central statistics bureau. This boils down to a championship on the same day held at different venues spread all over the country.**
- **By the same logic an international championship would be possible. The only requirement, of course, would be that all courses be rated according to the handicap system.**

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- New courses are given a handicap on the first year. This is determined after the ride by the same formula. The following year the ride would be held on the first years handicap and updated yearly to 5 years to have the average handicap of that course.
- **Horse** **Speed (km/h)**
-
- H1 = S1 = S1
  (speed of the 1st horse)
-
- H1 H2 H3 = (S1 + S2 + S3) / 3 = S2
  (average speed of the first 3 horses)
-
- H1 H2 H3 H4 H5= (S1 + S2 + S3 + S4 +S5) / 5 =
  S3 (average speed of the first 5 horses)

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- It could then be possible to arrange an International competition on a course with no previous records by applying the formula above.
- If courses have been ridden previously and results can be verified a handicap for that course could be worked out.

	Rider	Position	Country	Horse	Average Speed		Corrected Speed	Individual		Team
Coatelan Plourin (FRA) 2/9/2006	YANNICK BERTON	1	FRA	MENACER	17.501	17.50	23.32	3.00		
Coatelan Plourin (FRA) 2/9/2006	GERARD BELLAC	2	FRA	HEOL DE KEREROD	17.074		22.90	5.00		
Coatelan Plourin (FRA) 2/9/2006	SARA FREHEL	3	FRA	KENZA DU CABENO	16.777	17.12	22.60	6.00		
Coatelan Plourin (FRA) 2/9/2006	JACK BEGAUD	4	FRA	FARAL D'ALAUZE	16.673		22.50	7.00		
Coatelan Plourin (FRA) 2/9/2006	LAURIE BELLE	5	FRA	JAPPALOOS	16.532	16.91	22.36	10.00	31.00	1.00
						17.18				
					23	5.82				
Middelburg (RSA)2/9/2006	BRIAN JOHNSON	1	RSA	BENHAN STINGS	17.260	17.26	24.018	1.00		
Middelburg (RSA)2/9/2006	TOBIAS DOYER	2	RSA	ARKAB RAFFA	15.610		22.368	8.00		
Middelburg (RSA)2/9/2006	MARIAAN LIVERSAGE	3	RSA	MOOLMANSHOEK SWEEP	15.530	16.13	22.288	11.00		
Middelburg (RSA)2/9/2006	PIETER STEICHER	4	RSA	KHALIL ECLIPSE	14.890		21.648	14.00		
Middelburg (RSA)2/9/2006	JACO PRETORUIS	5	RSA	FABRAKO MOZART	13.370	15.33	20.128	15.00	49.00	3.00
						16.24				
					23.000	6.76				
VENSTRED DEN 1/9/2006	LOTTE KLITGAARD JESPERSON	1	DEN	GRAFIEK	15.650	15.65	23.457	2.00		
VENSTRED DEN 1/9/2006	TANJA VAN WILLIGEN	2	DEN	NADEEN	15.280		23.087	4.00		
VENSTRED DEN 1/9/2006	INGELISE KRISTOFERSEN	3	DEN	MIR	14.550	15.16	22.357	9.00		
VENSTRED DEN 1/9/2006	INGER PITTER	4	DEN	REOUEL	14.480		22.287	12.00		
VENSTRED DEN 1/9/2006	SONJA VAN WILLIGEN	5	DEN	SHAJAN OX	13.880	14.77	21.687	13.00	40.00	2.00
						15.19				
					23.000	7.81				

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- Does the future of endurance not lie in International competition.
- Is this handicap system not a way forward.
- International competition should be cast in a different mould by making it more accessible to more countries at a very much reduced cost.
- The obstacles of an International competition are financial constraints, time and a host of other logistical problems.
- The absence of the Northern Hemisphere countries (except the UAE) at the recent World young riders championships in Argentine is perhaps testimony of the cost and logistical implications of such a Championship. The Championship can be described at best as a Southern Hemisphere champs.
- The handicap way is disease free and of lower risk to the well being of the horses.
- Less stress on the horse
- Cost effective
- More competitiveness through more participation.
- With development of the sport at heart we should try and promote fair, equal and safe competition.
- Over the years we have developed a system which enables us to equalise endurance riding courses by way of a handicap system. This makes it possible to compare results of endurance rides held at different locations.
- It would be quite feasible to apply the same system to International rides held on the same day in different countries.
- We do not expect to finalise this format here but just to leave the idea with you.

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In conclusion we would like to extend to the working group of FEI the opportunity to hold the next forum in South Africa seen as though we are the second biggest FEI registered endurance country after France